Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-7 (cancelled).

8. (new) A fixed-bed shell-and-tube reactor, comprising:

a) a plurality of reaction tubes;

b) a solid particulate material packed in each of said plurality of reaction tubes;

c) wherein each of said plurality of reaction tubes has a pressure drop caused by the packing therein of said solid particulate material, wherein said pressure drop of each of said plurality of reaction tubes is in a range of 85 to 115 % of an average pressure drop of said plurality of reaction tubes; and

d) wherein said solid particulate material packed in each of said plurality of reaction tubes has a packed layer length being in a range of 90 to 110 % of an average packed layer length of said solid particulate material packed in said plurality of reaction tubes.

9. (new) A fixed-bed shell-and-tube reactor according to claim 8, wherein said solid particulate material is weighed out in a predefined weight for each of said plurality of reaction tubes according to a bulk density of said solid particulate material such that said solid particulate material will have a uniform volume in each of said plurality of reaction tubes.

PAGE 5/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

10. (new) A fixed-bed shell-and-tube reactor according to claim 8, wherein said solid particulate material is weighed out so as to have a uniform volume in each of said plurality of reaction tubes and is packed in each of said plurality of reaction tubes in a time span of not shorter than 30 seconds per liter of said solid particulate material.

11. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is obtained by a process including the steps of:

a) weighing out a predefined weight of said solid particulate material for each of said plurality of reaction tubes according to a bulk density of said solid particulate material such that said solid particulate material will have a uniform volume in each of said plurality of reaction tubes; and

b) packing said weighed-out predefined weight of said solid particulate material into each of said plurality of reaction tubes.

12. (new) A fixed-bed shell-and-tube reactor according to claim 8, wherein each of said plurality of reaction tubes has an inner diameter in a range of 15 to 50 mm.

13. (new) A fixed-bed shell-and-tube reactor according to claim 8, wherein said solid particulate material includes a plurality of particles, with each of the particles having a particle diameter, wherein each of said plurality of reaction tubes has an inner diameter, and wherein the ratio of said particle diameter of each particle to said inner diameter of each reaction tube is in a range of 0.1/1 to 0.5/1.

PAGE 6/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

14. (new) A fixed-bed shell-and-tube reactor according to claim 8, wherein said solid particulate material is weighed out so as to have a uniform volume in each of said plurality of reaction tubes and is packed in each of said plurality of reaction tubes in a time span of 30 to 120 seconds per liter of said solid particulate material.

15. (new) A fixed-bed shell-and-tube reactor according to claim 8, wherein said solid particulate material is at least one kind selected from the following groups (1) to (9):

(1) a catalyst that comprises silver as an essential component and is for a production of ethylene oxide by oxidizing ethylene in a gas phase;

(2) a catalyst that comprises molybdenum, bismuth, and iron as essential components and is for a production of (meth)acrolein and (meth)acrylic acid by oxidizing propylene, isobutylene, tert-butanol, and/or methyl tert-butyl ether in a gas phase;

(3) a catalyst that comprises molybdenum and vanadium as essential components and is for a production of acrylic acid by oxidizing acrolein in a gas phase;

(4) a catalyst that comprises molybdenum and phosphorus as essential components and is for a production of methacrylic acid by oxidizing methacrolein in a gas phase;

(5) a catalyst that comprises vanadium and titanium as essential components and is for a production of phthalic anhydride by oxidizing o-xylene and/or naphthalene in a gas phase;

(6) a catalyst that comprises molybdenum as an essential component and is for a production of maleic anhydride by oxidizing benzene in a gas phase;

PAGE 7/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

(7) a catalyst that comprises phosphorus and vanadium as essential components and is for a production of maleic anhydride by oxidizing n-butane in a gas phase;

(8) a catalyst that comprises molybdenum as an essential component and is for a production of propylene, acrolein, and/or acrylic acid by oxidizing propane in a gas phase; and

(9) a catalyst that comprises vanadium as an essential component and is for a production of pyromellitic anhydride by oxidizing durene in a gas phase.

16. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing ethylene oxide, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes ethylene, and wherein the solid particulate material is a solid particulate catalyst which includes silver as an essential component; and

thereafter oxidizing said ethylene in the presence of the solid particulate catalyst in a gas phase to thereby obtain ethylene oxide.

17. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing (meth)acrolein and (meth)acrylic acid, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes propylene, isobutylene, tert-butanol, and/or methyl tert-butyl ether, and wherein the solid particulate material is a solid particulate

PAGE 8/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

catalyst which includes molybdenum, bismuth, and iron as essential components; and

thereafter oxidizing said propylene, isobutylene, tert-butanol, and/or methyl tert-butyl ether in the presence of the solid particulate catalyst in a gas phase to thereby obtain (meth)acrolein and (meth)acrylic acid.

18. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing acrylic acid, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes acrolein, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum and vanadium as essential components; and

thereafter oxidizing said acrolein in the presence of the solid particulate catalyst in a gas phase to thereby obtain acrylic acid.

19. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing methacrylic acid, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes methacrolein, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum and phosphorus as essential components; and

thereafter oxidizing said methacrolein in the presence of the solid particulate catalyst in a gas phase to thereby obtain methacrylic acid.

PAGE 9/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

20. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing phthalic anhydride, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes o-xylene and/or naphthalene, and wherein the solid particulate material is a solid particulate catalyst which includes vanadium and titanium as essential components; and

thereafter oxidizing said o-xylene and/or naphthalene in the presence of the solid particulate catalyst in a gas phase to thereby obtain phthalic anhydride.

21. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing maleic anhydride, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes benzene, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum as an essential component; and

thereafter oxidizing said benzene in the presence of the solid particulate catalyst in a gas phase to thereby obtain maleic anhydride.

22. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing maleic anhydride, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes n-butane, and wherein the

PAGE 10/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

solid particulate material is a solid particulate catalyst which includes phosphorus and vanadium as essential components; and

thereafter oxidizing said n-butane in the presence of the solid particulate catalyst in a gas phase to thereby obtain maleic anhydride.

23. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing propylene, acrolein, and/or acrylic acid, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes propane, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum as an essential component; and

thereafter oxidizing said propane in the presence of the solid particulate catalyst in a gas phase to thereby obtain propylene, acrolein, and/or acrylic acid.

24. (new) A fixed-bed shell-and-tube reactor according to claim 8, which is used for a process for producing pyromellitic anhydride, wherein the process includes the steps of:

introducing an oxygen-containing reaction gas into said fixed-bed shell-and-tube reactor, wherein the oxygen-containing reaction gas includes durene, and wherein the solid particulate material is a solid particulate catalyst which includes vanadium as an essential component; and

thereafter oxidizing said durene in the presence of the solid particulate catalyst in a gas phase to thereby obtain pyromellitic anhydride.

PAGE 11/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

25. (new) A process for producing ethylene oxide, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes ethylene, and wherein the solid particulate material is a solid particulate catalyst which includes silver as an essential component; and

thereafter oxidizing said ethylene in the presence of the solid particulate catalyst in a gas phase to thereby obtain ethylene oxide.

26. (new) A process for producing (meth)acrolein and (meth)acrylic acid, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes propylene, isobutylene, tert-butanol, and/or methyl tert-butyl ether, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum, bismuth, and iron as essential components; and

thereafter oxidizing said propylene, isobutylene, tert-butanol, and/or methyl tert-butyl ether in the presence of the solid particulate catalyst in a gas phase to thereby obtain (meth)acrolein and (meth)acrylic acid.

27. (new) A process for producing acrylic acid, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes acrolein, and wherein the solid particulate material is a

PAGE 12/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

solid particulate catalyst which includes molybdenum and vanadium as essential components; and

thereafter oxidizing said acrolein in the presence of the solid particulate catalyst in a gas phase to thereby obtain acrylic acid.

28. (new) A process for producing methacrylic acid, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes methacrolein, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum and phosphorus as essential components; and

thereafter oxidizing said methacrolein in the presence of the solid particulate catalyst in a gas phase to thereby obtain methacrylic acid.

29. (new) A process for producing phthalic anhydride, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes o-xylene and/or naphthalene, and wherein the solid particulate material is a solid particulate catalyst which includes vanadium and titanium as essential components; and

thereafter oxidizing said o-xylene and/or naphthalene in the presence of the solid particulate catalyst in a gas phase to thereby obtain phthalic anhydride.

30. (new) A process for producing maleic anhydride, comprising the steps of:

PAGE 13/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes benzene, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum as an essential component; and

thereafter oxidizing said benzene in the presence of the solid particulate catalyst in a gas phase to thereby obtain maleic anhydride.

31. (new) A process for producing maleic anhydride, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes n-butane, and wherein the solid particulate material is a solid particulate catalyst which includes phosphorus and vanadium as essential components; and

thereafter oxidizing said n-butane in the presence of the solid particulate catalyst in a gas phase to thereby obtain maleic anhydride.

32. (new) A process for producing propylene, acrolein, and/or acrylic acid, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes propane, and wherein the solid particulate material is a solid particulate catalyst which includes molybdenum as an essential component; and

thereafter oxidizing said propane in the presence of the solid particulate catalyst in a gas phase to thereby obtain propylene, acrolein, and/or acrylic acid.

PAGE 14/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44

33. (new) A process for producing pyromellitic anhydride, comprising the steps of:

introducing an oxygen-containing reaction gas into the fixed-bed shell-and-tube reactor as recited in claim 8, wherein the oxygen-containing reaction gas includes durene, and wherein the solid particulate material is a solid particulate catalyst which includes vanadium as an essential component; and

thereafter oxidizing said durene in the presence of the solid particulate catalyst in a gas phase to thereby obtain pyromellitic anhydride.

PAGE 15/26 * RCVD AT 11/16/2005 3:34:30 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/32 * DNIS:2738300 * CSID:651 699 7901 * DURATION (mm-ss):05-44